

## WESTERN MASSACHUSETTS ELECTRIC COMPANY

### SERVICE QUALITY PLAN

#### GENERAL

##### A. Provisions

The following guidelines will apply to Western Massachusetts Electric Company (“WMECO”) unless otherwise indicated. In the event of a conflict between these guidelines and any orders or regulations of the Department, said orders and regulations shall govern.

##### B. Definitions

“Billing Adjustment” shall mean a revenue adjustment amount resulting from Departmental intervention in a billing dispute between a Company and a residential customer.

“Circuit” shall mean a conductor or system of conductors through which an electric current is intended to flow.

“Complaint” shall mean a formal complaint to the Consumer Division of the Department wherein the Consumer Division creates a systems record with a customer’s name and address.

“Consumer Division Case” shall mean a written record opened by the Consumer Division of the Department in response to a Complaint that meets the criteria set forth in Section III.A.

“Customer Average Interruption Duration Index” or “CAIDI” shall mean the total duration of customer interruption in minutes (as calculated by application of Section V) divided by the total number of customer interruptions, expressed in minutes per year. CAIDI characterizes the average time required to restore service to the average customer per sustained interruption during the reporting period.

“Customer Equipment Outage” shall mean an outage caused by customer operation or the failure of customer-owned equipment.

“Electric Distribution” shall mean the delivery of electricity over lines that operate at a voltage level typically equal to or greater than 110 volts and less than 69,000 volts to an end-use customer within the Commonwealth.

“Electric Distribution Facility” shall mean plant or equipment used for the distribution of electricity that is not a transmission facility, a cogeneration facility, or a small power production facility.

“Electric Distribution Feeder” shall mean a distribution facility circuit conductor between the service equipment, the source of a separately derived system, or other power-supply source and the final branch-circuit overcurrent device.

“Electric Distribution Line Loss” shall mean the electrical energy that is lost in the distribution system. Such loss includes (1) energy that is lost directly due to the delivery of electrical energy and results from the physical properties of the system’s wires and transformers and other incidental substation use, and (2) energy that is lost because of diversion, theft, and other unmetered use.

“Electric Distribution Service” shall mean the delivery of electricity to the customer by WMECO over lines that operate at a voltage level typically equal to or greater than 110 volts and less than 69,000 volts.

“Emergency Call” shall mean a telephone call where the caller believes that he or she is confronting special circumstances that might lead to bodily and/or system-related damage if the circumstances remain unaddressed. Examples include, but are not limited to, downed wires, gas leaks, and gas odor reports.

“Excludable Major Event” shall mean a major outage event that meets one of the following criteria: (i) the event is caused by earthquake, fire, or storm of sufficient intensity to give rise to a state of emergency being proclaimed by the Governor (as provided under the Massachusetts Civil Defense Act); (ii) any other event that causes an unplanned interruption of service to 15 percent or more of WMECO’s customers in an operating area; or (iii) an event that results from the failure or disturbance of a transmission, power supply, or other system that is not owned or operated by WMECO. Notwithstanding the foregoing criteria, an extreme temperature condition would not constitute an Excludable Major Event.

“Lost Work Time Accident Rate” shall mean the Incidence Rate of Lost Work Time Injuries and Illness per 200,000 Employee Hours as defined by the U.S. Department of Labor Bureau of Labor Statistics.

“Meter Reading” shall mean the act of manually or automatically acquiring customer-specific usage levels of an energy resource, expressed in numerical units, for a defined period by actually consulting the customer’s meter.

“Momentary Outage” or “Momentary Interruption” shall mean an outage or interruption of electric service of less than one minute.

“Non-emergency Call” shall mean all telephone calls other than emergency calls.

“Operating Area” shall mean a geographical subdivision of WMECO’s franchise territory as defined by WMECO

“Planned Outage” shall mean an outage that is scheduled by WMECO and of which customers are notified in advance, including, for example, during the connection of new customers or to ensure the safe performance of maintenance activities.

“Poor Performing Circuit” shall mean any distribution feeder that:

- (i) has sustained a circuit SAIDI or SAIFI value for a reporting year that is among the highest (worst) ten percent of WMECO's feeders for any two consecutive reporting years; or
- (ii) has sustained a circuit SAIDI or SAIFI value for a reporting year that is more than 300 percent greater than the system average of all feeders in any two consecutive reporting years.

“Restricted Work-Day Rate” shall mean the Incidence Rate of Restricted Work cases per 200,000 Employee Hours as defined by the U.S. Department of Labor Bureau of Labor Statistics.

“Service Appointment” shall refer to a mutually agreed upon arrangement for service between WMECO and the customer that specifies the date for the WMECO’s personnel to perform a service activity that requires the presence of the customer at the time of service.

“Service Interruption To A High-profile Customer” shall mean an outage that has a reasonable probability of involving a high-profile customer, including a hospital, airport, or large manufacturing, commercial, or institutional customer (who has a demand of 1 megawatt or greater).

“System Average Interruption Duration Index” or “SAIDI” shall mean the total duration of customer interruption in minutes (as calculated by application of Section V herein) divided by the total number of customers served by the distribution system, expressed in minutes per year. SAIDI characterizes the average length of time that customers are without electric service during the reporting period.

“System Average Interruption Frequency Index” or “SAIFI” shall mean the total number of customer interruptions divided by the total number of customers served by the distribution system, expressed in interruptions per customer per year. SAIFI characterizes the average number of sustained electric service interruptions for each customer during the reporting period.

“Sustained Outage” or “Sustained Interruption” shall mean an outage or interruption of electric service that lasts at least one minute and is not classified as a momentary outage.

“Transmission and Distribution Revenues” shall mean revenues collected through the base rates of WMECO.

“Year” shall mean calendar year unless otherwise noted.

C. Benchmarking

The historical average and standard deviation for benchmarking will be based on the ten most recent years worth of data for WMECO. This will be a fixed average for the duration of the PBR. Where ten years worth of information is not available to WMECO, WMECO will use the maximum number of years of data available, so long as three years are available. As WMECO collects additional data, that data will be included in benchmarking until ten years worth of data is collected.

For SAIDI and SAIFI, the historic average and standard deviation for benchmarking will be based on the years 1996, 1997, 1998, 1999, and 2000.

II. CUSTOMER SERVICE AND BILLING PERFORMANCE MEASURES

A. Telephone Service Factor

WMECO will gather data and report statistics on its handling of telephone calls. Call data will be compiled and aggregated monthly. Reporting will occur annually. The reports will be submitted in accordance with Section IX below. WMECO will report the percentage of telephone calls that are handled within 20 seconds. WMECO will also provide, separately, call-handling times for Emergency Calls and Non-Emergency Calls.

Telephone Service Factor is measured beginning at the point that the caller makes a service selection and ending at the point that the call is responded to by the service area selected by the caller. If the caller does not make a selection, the response time will be measured from a point following the completion of WMECO’s recorded menu options and ending at the point that a customer-service representative responds to the call.

Telephone Service Factor is a performance measure subject to a revenue penalty.

B. Service Appointments Met As Scheduled

WMECO will gather data and report statistics regarding the number of service calls met on the same day requested, excluding when a customer misses a mutually-agreed upon time. WMECO will report the percentage of scheduled service appointments met by WMECO personnel on the same day requested. Service appointment data shall be compiled and aggregated monthly. Reporting will occur annually. The reports will be submitted in accordance with Section IX below. Service Appointments Met As Scheduled is a performance measure subject to a revenue penalty.

C. On-Cycle Meter Readings

WMECO will gather data and report statistics for the percentage of meters that are actually read by WMECO, monthly. WMECO will report the percentage of customer meters actually read on a monthly basis. Eligible meters include both residential and commercial accounts. Meter reading data will be compiled and aggregated monthly. Reporting will occur annually. The reports will be submitted in accordance with Section IX below. On-cycle Meter Reading is a performance measure subject to a revenue penalty.

III. CUSTOMER SATISFACTION MEASURES

A. Consumer Division Cases

Customer complaints will be categorized as a Consumer Division Case where a written record is opened by the Consumer Division using the following criteria:

- (1) the individual making the Complaint provides his or her identity to the Consumer Division and is either a (a) current, prospective, or former customer of WMECO against which the Complaint has been lodged, or (b) a designee of the current, prospective, or former customer of WMECO;
- (2) the individual or his/her designee has contacted WMECO from which the customer receives distribution service prior to lodging a Complaint with the Department;
- (3) the Department's investigator cannot resolve the Complaint without contacting WMECO to obtain more information;
- (4) the matter involves an issue or issues over which the Department typically exercises jurisdiction; and
- (5) the matter involves an issue or issues over which WMECO has control.

Consumer complaint data and billing adjustment data will be employed as service quality measures. The Department will compile and aggregate monthly the frequency of Consumer complaints. The Department also will compile and aggregate monthly the dollar amounts of Billing Adjustments. The Department will report data on both of these measures annually. The Department will offer company-specific meetings to discuss WMECO's performance annually. Revenue penalties apply to each of these measures.

B. Billing Adjustments

The Department will compile and aggregate monthly the dollar amount of residential Billing Adjustments per 1,000 residential customers. The Department will provide such data to WMECO on an annual basis. Upon request of WMECO, the Department may conduct a company-specific meeting to discuss the WMECO's performance.

C. Consumer Surveys

WMECO will provide the results of two surveys to the Department on an annual basis: (1) a customer satisfaction survey of a statistically representative sample of residential customers; and (2) a survey of customers randomly selected from those customers who have contacted WMECO's customer service department within the year in which service is being measured. The representative sample will be newly drawn from customers contacting WMECO's customer service area in the year previous and will be conducted with a sample of respondents who are *redialed* after having concluded a contact with WMECO's customer service area.

For the residential customer satisfaction survey, the following question will be asked: "Using a scale where 1 = very dissatisfied and 7 = very satisfied; how satisfied are you with the service you are receiving from WMECO?" For the customer-specific survey, the following question will be asked: "Using a scale where 1 = very dissatisfied and 7 = very satisfied; how satisfied were you with the service you received from the customer service department of WMECO?"

WMECO will report the results of these surveys to the Department on an annual basis as specified in Section IX and will include the results from the previous years of the survey up to a maximum of ten years. No benchmarks will be calculated for these survey measures, because no revenue penalty mechanism is assigned to these measures.

IV. STAFFING LEVEL BENCHMARK

Pursuant to the Collective Bargaining Agreement between WMECO and IBEW Local 455, there is agreement on the appropriate staffing levels.

V. ASSUMPTIONS FOR CALCULATING ELECTRIC RELIABILITY MEASURES

For the purpose of calculating SAIDI, SAIFI, and CAIDI, the following assumptions and criteria will be used in accumulating outage data for standardizing reliability measurements:

- A. Customer Equipment Outages will be excluded from the calculation of SAIDI, SAIFI, and CAIDI;
- B. Planned outages will be excluded from the calculation of SAIDI, SAIFI, and CAIDI;
- C. Excludable Major Events will be excluded from the calculation of SAIDI, SAIFI, and CAIDI;
- D. Momentary Outages will be excluded from the calculation of SAIDI, SAIFI, and CAIDI;
- E. The beginning of an outage will be recorded at the earlier of an automatic alarm or the first report of no power;
- F. The end of an outage will be recorded at that point that power to customers is restored;
- G. Outages involving a primary distribution circuit will be included in the calculation of SAIDI, SAIFI, and CAIDI. Outages that do not involve a primary distribution circuit (*i.e.*, secondary, line transformer only or service only) will not be included in the standardized indices.
- H. Where only part of a circuit experiences an outage, the number of customers affected will be estimated, unless an actual count is available. When power is partially restored, the number of customers restored also will be estimated.
- I. When customers lose power as a result of the process of restoring power (such as from switching operations and fault isolation), the duration of these additional outages will be included, but the additional number of interruptions will not be included in the calculation.

VI. RELIABILITY AND SAFETY PERFORMANCE MEASURES

A. Electric Reliability

WMECO will measure SAIDI and SAIFI on an annual basis in accordance with Section V and compare its performance following the implementation of the PBR Plan to a benchmark established by Section I.C. SAIDI and SAIFI shall be performance measures subject to a revenue penalty in Section VII.

C. Lost Work Time Accident Rate

WMECO will measure annually its Lost Work Time Accident Rate. The Lost Work Time Accident Rate is a performance measure subject to a revenue penalty in Section VII.

VII. REVENUE PENALTIES AND PENALTY OFFSETS

A. Applicability

The revenue penalty for the performance measures set forth in above in Sections II, III, and VI will be determined in accordance with the penalty formula in Section VII.B. If WMECO's annual performance for a performance measure falls within or is equal to one standard deviation from the benchmark, no revenue penalty nor penalty offset shall be imposed for that measure. If WMECO's annual performance for a measure exceeds one standard deviation up to two standard deviations (to the closest tenth of a decimal point) above the benchmark, it will be subject to the revenue penalty shown in Section VII.B.

If WMECO's annual performance for a performance measure exceeds two standard deviations above the benchmark in any year, then the Department may open a formal investigation as to the reasons for WMECO's poor performance.

Penalty offsets are calculated in a similar fashion to revenue penalties. If WMECO's annual performance for a performance measure falls within or is equal to one standard deviation below the benchmark, no revenue offset is achieved. If WMECO's annual performance is below one standard deviation (to the closest tenth of a decimal point) below the benchmark, it will earn a penalty offset. If WMECO falls below two standard deviations in performance, the penalty offset is capped at the level associated with two standard deviations.

Penalty offsets may only be used to offset revenue penalties. Penalty offsets have no value other than to offset revenue penalties. Penalty offsets acquired on any performance measure may be



used to offset revenue penalties on any other performance measure.

B. Penalty and Penalty Offset Formulas

The revenue penalty formula for all performance measures will be:

$$\text{Penalty}_M = \frac{[0.25 * (\text{Observed Result} - \text{Historical Average Result})^2] * \text{Maximum Penalty}}{\text{Standard Deviation}}$$

If: (Observed Result - Historical Average Result) is a positive value.

The offset penalty formula for all performance measures will be:

$$\text{Offset}_M = \frac{[0.25 * (\text{Observed Result} - \text{Historical Average Result})^2] * \text{Maximum Offset}}{\text{Standard Deviation}}$$

If: (Observed Result - Historical Average Result) is a negative value.

Where:

$\text{Penalty}_M$  = revenue penalty applied to performance measure M;

$\text{Offset}_M$  = penalty offset applied to performance measure M;

Observed Result = the average actual performance measure achieved in year<sub>y</sub>, rounded to the applicable decimal place as specified for each measure in Section VIII. A;

Historical Average Result = the average historical actual result, based on an arithmetic average of the previous years<sub>a...x</sub> of historic data, rounded to the applicable decimal place as specified for each benchmark in Section VIII. C;

Standard Deviation = standard deviation of the historical average result; and

Maximum Penalty =  $(\text{PCL}_M) * (\text{AR} * 0.02)$

Maximum Offset =  $(\text{PCL}_M) * (\text{AR} * 0.02)$

Where:

$\text{PCL}_M$  = Performance category liability for the measure expressed as a percentage (derived from Section VII. D); and

AR = Annual Transmission and Distribution Revenues of a Company for the applicable year.

D. Apportionment of Penalty Among Performance Measures

Revenue penalties will be apportioned among the various performance measures as follows:

Safety and Reliability

SAIDI	22.5 percent
SAIFI	22.5 percent
Lost Work-Time Accident Rate	10.0 percent

Customer Service and Billing

Telephone Answering Rate	12.5 percent
Service Appointments Met	12.5 percent
On-Cycle Meter Readings	10.0 percent

Consumer Division Statistics

Consumer Division Cases	5.0 percent
Billing Adjustments	5.0 percent

## VIII. REPORTING REQUIREMENTS

### A. Reliability, Line Loss, and Safety Indices and Rates

WMECO will report on an annual basis SAIDI, SAIFI, CAIDI, Lost Work Time Accident Rate, Electric Distribution Line Loss, Restricted Work-Day Rate, and damage to company property. These reports will be submitted in accordance with Section IX below.

CAIDI and SAIDI will be reported in terms of minutes and shall be measured and reported to the nearest 100<sup>th</sup> of a minute. SAIFI will be reported to the nearest 1000<sup>th</sup> of a reported outage. The Lost Work Time Accident Rate will be reported to the nearest 100<sup>th</sup> of an accident. Restricted Work-Day Rate will be reported to the nearest 100<sup>th</sup> of a case. Electric Distribution Line Loss will be reported to the nearest 10<sup>th</sup> of a percentage point. The Consumer and Billing Measures will be reported to the nearest 10<sup>th</sup> of a percentage point.

For the annual reports on electric distribution line loss, WMECO will provide sufficient substantiation of:

- (1) its Electric Distribution Line Loss value,
- (2) the accompanying adjustments that were made to standardize the value to specific reference conditions, and
- (3) the specific reference conditions.

For the annual reports on damage to company property, WMECO will file annually property damage reports on incidents involving property damage to WMECO property in excess of \$50,000 per incident that is attributed to Company-owned facilities. A report will be submitted within 48 hours of the incident and will include the same information as that submitted for accidents as described in this Section VIII. I.

### B. Past Reliability and Safety Performance Data

WMECO will report the Lost Work Time Accident Rate data from the past ten years in the same fashion as in Section VIII.A. WMECO will report SAIDI and SAIFI data from the past five years in the same fashion as in Section VIII.A. WMECO has standardized its SAIDI and SAIFI historical data (consistent with the method in Section V). The SAIDI, SAIFI, and Lost Work Time Accident Rate data will be provided in WMECO's first annual report submitted in accordance with Section IX below. WMECO's first annual report will describe any limitations in data that affect standardization of SAIDI and SAIFI, and provide its best estimate of the statistical error inherent in the standardized indices.

C. Benchmarks

WMECO will provide the supporting calculations that were used in determining the standard and benchmark values. SAIDI will be reported in terms of minutes and shall be measured and reported to the nearest 100<sup>th</sup> of a minute. SAIFI will be reported to the nearest 1000<sup>th</sup> of a reported outage. The Lost Work Time Accident Rate will be reported to the nearest 100<sup>th</sup> of an accident. The Consumer and Billing standards will be reported to the nearest 10<sup>th</sup> of a percentage point. The reports will be submitted in accordance with Section IX below.

WMECO will report on an annual basis the Lost Work Time Accident Rate and the Consumer and Billing performance standards and benchmarks that were determined in accordance with Sections II and VI, above. WMECO will report on an annual basis the SAIDI and SAIFI performance standards and benchmarks that were determined in accordance with Section VI, above.

D. Annual Major Outage Events

WMECO will identify and report on an annual basis the outages that are considered Excludable Major Events. For each major event excludable under the standard above (or excluded using a WMECO's historic method), WMECO will report the total number of customers affected, the service area affected, the number of customers without service at periodic intervals, the time frame of longest customer interruption, and the number of crews used to restore service on a per shift basis. In addition, the report will include WMECO's policy on tree trimming, including its tree trimming cycle, inspection procedures, and typical minimum vegetation clearance requirement from electric lines. With respect to Electric Service Outages, WMECO will also continue to report transmission and distribution outages consistent with the Department's Outage and Accident Reporting Procedures effective September 1, 2001. These reports will be submitted in accordance with Section IX, below.

E. Capital Expenditure Information

WMECO will report on an annual basis the capital investment approved and capital investment completed in WMECO's transmission and distribution infrastructure to ensure delivery of reliable electricity. This report will include a list of its major capital investment projects that relate to maintain transmission and distribution reliability and a summary description of each project. The summary will include a list and location of each transmission and distribution facility that was modified, upgraded, replaced, and/or constructed as well as the costs and scope of work involved in the facility modification, upgrade, replacement, and/or construction.

WMECO will report on an annual basis the transmission and distribution capital investment expenditures for reliability work. Initially, WMECO will report information beginning with calendar-year 1997 through calendar-year 2001. Detailed expenditures for periods prior to calendar-year 1997 were not retained in WMECO's plant accounting system, and therefore, WMECO cannot provide detailed information for those years.

The reports shall be submitted in accordance with Section IX below.

F. Spare Component and Acquisition Inventory Policy and Practice

WMECO will report on an annual basis its policy for identifying, acquiring, and stocking critical spare components for its distribution and transmission system. WMECO's first annual report will address how this policy has changed or evolved over the past 10 years. The reports will be submitted in accordance with Section IX below.

G. Poor Performing Circuits

WMECO will identify and report on an annual basis its poor performing circuits. The report on these poor performing circuits will include the following information:

- (1) the feeder or circuit identification number;
- (2) the feeder or circuit location;
- (3) the reason(s) why the circuits performed poorly during the reporting year;
- (4) the number of years that the circuit(s) performed poorly;
- (5) the steps that are being considered and/or have been implemented to improve the reliability of these circuits; and
- (6) the SAIDI or SAIFI value for the specific circuit(s).

The reports will be submitted in accordance with Section IX below.

H. Electric Service Outages

WMECO reports distribution and transmission outages consistent with the Department's Outage and Reporting Protocol established August 24, 2001.

I. Other Safety Performance Measures

In compliance with the requirements of G.L. c. 164, § 95, WMECO will report within a 24-hour period of an accident the following information:

- (1) time and date of incident;
- (2) time and date of the notice to the Department;
- (3) location of the incident;
- (4) a detailed description of the accident including information about fatalities, injuries, facilities and third-party property damage; and
- (5) the name and telephone number of a utility employee who may be contacted about the accident.

IX. SUBMITTING ANNUAL REPORTS TO THE DEPARTMENT

The annual reports described previously will be submitted to the Department by March 1 of each year reflecting the data from the previous year(s) and shall be submitted in the following manner:

- A. the original to Secretary, Department of Telecommunications and Energy, One South Station, Boston, Massachusetts 02110;
- B. one copy to the Electric Power Division Director, Department of Telecommunications and Energy, One South Station, Boston, Massachusetts 02110;
- C. one copy to the Rates and Revenues Division Director, Department of Telecommunications and Energy, One South Station, Boston, Massachusetts, 02110;
- D. one copy of the report to the Consumer Division Director, Department of Telecommunications and Energy, One South Station, Boston Massachusetts 02110; and
- E. an electronic copy of the report to the Department, by one of two means:  
  - (1) by e-mail attachment to [dte.efiling@state.ma.us](mailto:dte.efiling@state.ma.us); or (2) on a 3.5" floppy diskette, IBM-compatible format to the Director of Electric Power Division, Department of Telecommunications and Energy, One South Station, Boston Massachusetts 02110. The text of the e-mail or the diskette label will specify: (1) an easily identifiable case caption; (2) docket number; (3) name of the person or Company submitting the filing, and (4) a brief descriptive title of document (e.g., comments or petition to intervene). The electronic filing will also include the name, title and phone number of a person to contact in the event of questions about the filing. Text responses will be written in Microsoft Word, (naming the document with a ".doc" suffix). Data or spreadsheet responses will be compatible with Microsoft Excel.

X. BILLING INFORMATION

WMECO will submit language, for approval by the Department, to be placed on the back side of customer bills, which notifies customers of (a) their ability to contact the Department regarding service quality complaints or questions, and (b) the Department's website address ([www.magnet.state.ma.us/dpu](http://www.magnet.state.ma.us/dpu)).